CLAIMS

1. A key synchronization method for a wireless network comprising:

setting a current encryption key and an old encryption key at an access point in the wireless network;

sending an encrypted data frame from a station in the wireless network to the access point using a station encryption key; and

decrypting the received data frame when the access point determines that the current key is equal to the station key.

2. The method according to claim 1, further comprising:

generating a new encryption key at the access point upon expiration of a key refresh interval;

resetting the old key to equal the station encryption key;

resetting the current key to equal the newly generated encryption key; and

sending the new key to the station in an encrypted form using the station encryption key.

3. The method according to claim 1, further comprising:

incrementing an out-of-sync counter in the access point when said decrypting fails due to the station encryption key not matching the current key; and

decrypting the received data frame at the access point using the old encryption key.

4. The method according to claim 2, further comprising:

decrypting the received data frame from the station when the access point determines the station sending the received packet is using the new key, said access point starting to use the new key when a first data frame correctly encrypted with the new key is received from the station;

re-setting the old key to equal to the current key when decryption is successful; and

re-setting an out-of-sync counter to zero upon successful decryption.

5. The method according to claim 1, further comprising setting the old key equal to a null value, said null value representing a no encryption mode.

6. The method according to claim 1, further comprising setting the current key and the first key to a null value, said null value representing a no encryption mode.

7. The method according to claim 1, wherein said step of setting is performed by the access point for each station in the wireless network.

8. A key synchronization mechanism for a wireless network comprising:

at least one station in the wireless network; and

at least one an access point in the wireless network maintaining an old encryption key and a new encryption key through a key rotation interval for each of said at least one station, said access point using said new encryption key when a first data frame correctly encrypted with said new key is received from said at least one station.

9. The key synchronization mechanism according to claim 8, wherein said at least one access point further maintains an out-of-sync counter to track the number of packets where decryption fails due to mismatched keys.

10. The key synchronization mechanism according to claim 8, wherein said at least one access point is capable of setting the old encryption key to a null value, said null value representing a no encryption mode.

11. The key synchronization mechanism according to claim 8, wherein said at least one access point is capable of setting the new encryption key to a null value, said null value representing a no encryption mode.

12. The key synchronization mechanism according to claim 8, wherein said at least one access point initially sets the old encryption key to a null value.